



Fresno to Bakersfield High-Speed Train Project EIR/EIS

Preliminary Alternatives Analysis (AA)

California High-Speed Rail Authority

**Board Briefing
June 3, 2010**



Preliminary Alternatives Analysis

- **Follow-up to Initial AA Briefing of December 3, 2009**
- **Additional studies performed on alternatives**
- **Additional Public Outreach**
- **Review of Heavy Maintenance Facility Sites**
- **Results in recommendations to be carried forward in EIR/EIS**
- **Request Board approval of recommendations**





Public Outreach Activities

- **Scoping meetings / Report**
- **Technical Working Groups (TWG)**
- **Stakeholder meetings**
 - Resource agencies
 - Local agencies, City Councils
 - Boards of Supervisors
 - Agricultural Groups and Land Owners
- **Public information meetings**
- **Fact Sheets**
- **E-mail alerts**
- **Media outreach**
- **CHSRA website updates**

WELCOME

**Public Information Meeting
Open House**

California High-Speed Train Project

We invite you to review the alternatives developed to bring the High-Speed Train through the South Valley, including a proposed station to serve the region.

Your comments will help us design the best project.

Fresno to Bakersfield Project EIR/EIS

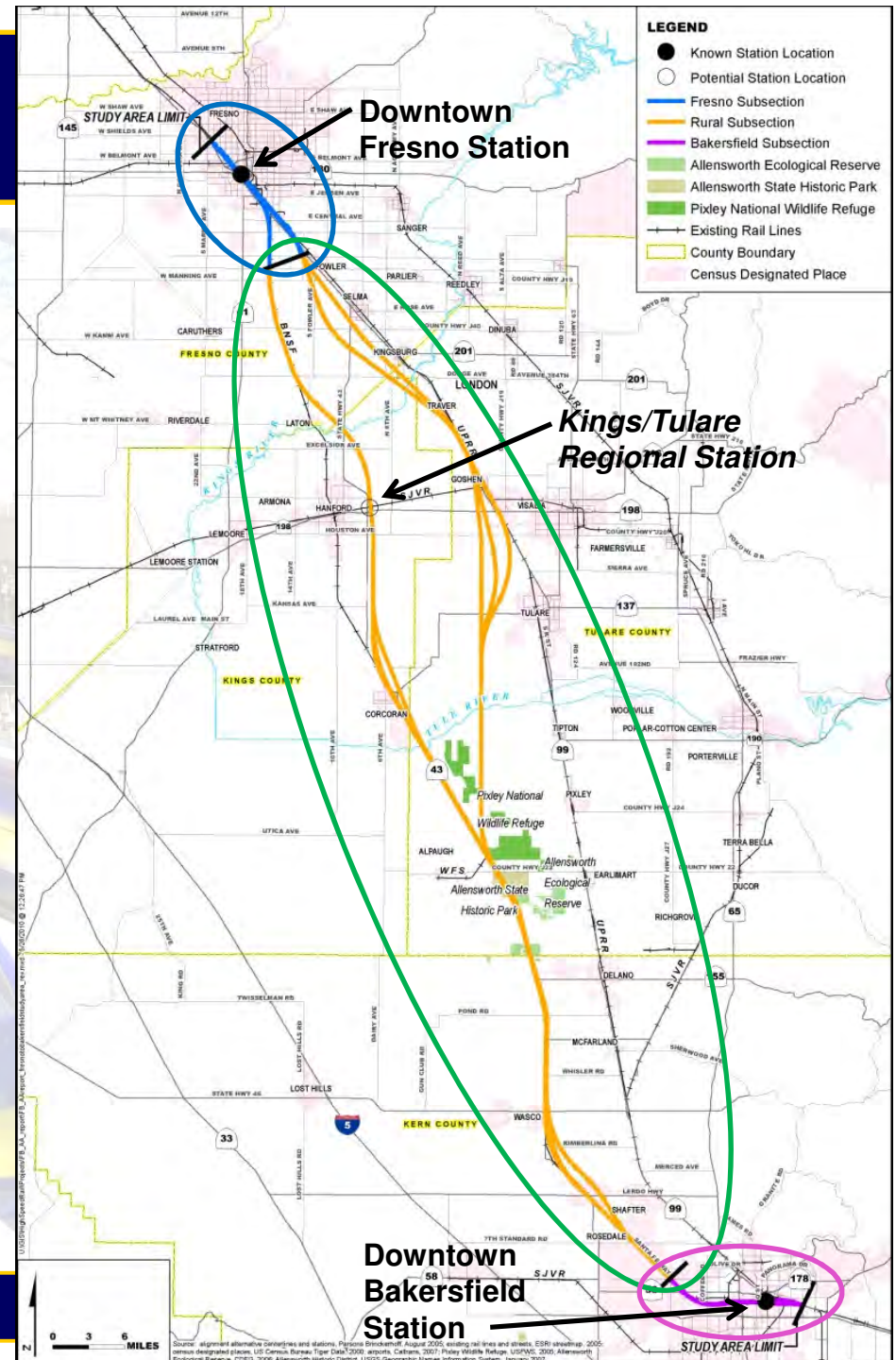
California High-Speed Train Project





Section Description

- Approximately 119 Miles
- Three Subsections
 - Fresno: 13.5 Miles
 - Rural: 93.8 Miles
 - Bakersfield: 12.0 Miles
- Three Stations
 - Downtown Fresno
 - Downtown Bakersfield
 - Potential Kings-Tulare Regional Station (near Hanford)





Alternatives Development

- **Initial Alternatives**

- Refinement of Statewide Program EIR/EIS Preferred Alignment
- Alternatives from *Visalia-Tulare-Hanford Station Feasibility Study*
- Refinements based on public input

- **Distinguishing Features**

- Horizontal alignment
- Vertical profile
- Relationship to existing transportation corridors
- Connection with adjacent sections/subsections
- Local options

- **Station Sites**





Alternatives Evaluation

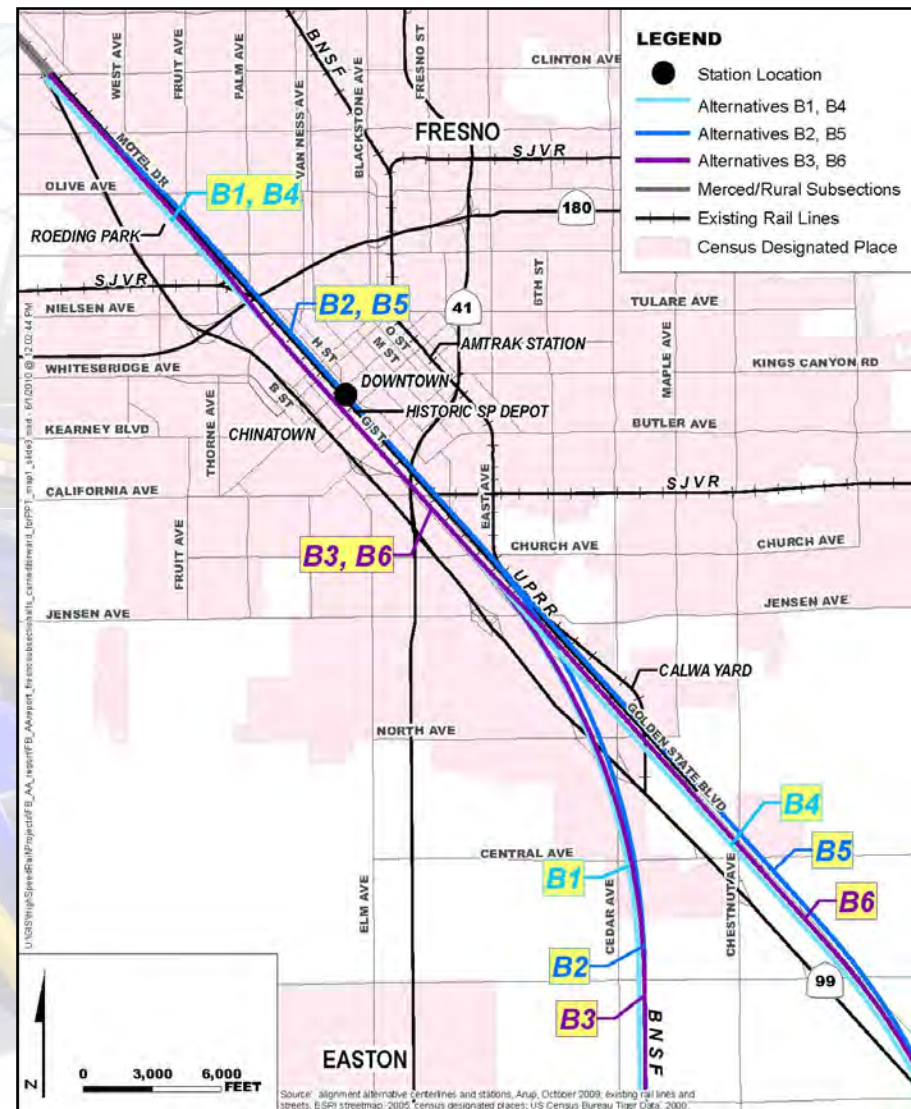
- **Design Objectives**
 - Maximize ridership/revenue potential
 - Maximize connectivity and accessibility
 - Minimize operating and capital costs
- **Comparison Measures**
 - Natural Environment and Resources
 - Community Impacts and Support
 - Land Use
 - Construction Feasibility
- **Result**
 - Identify alignment alternatives (and station sites) for study in EIR/EIS





Fresno Subsection Alternatives Considered

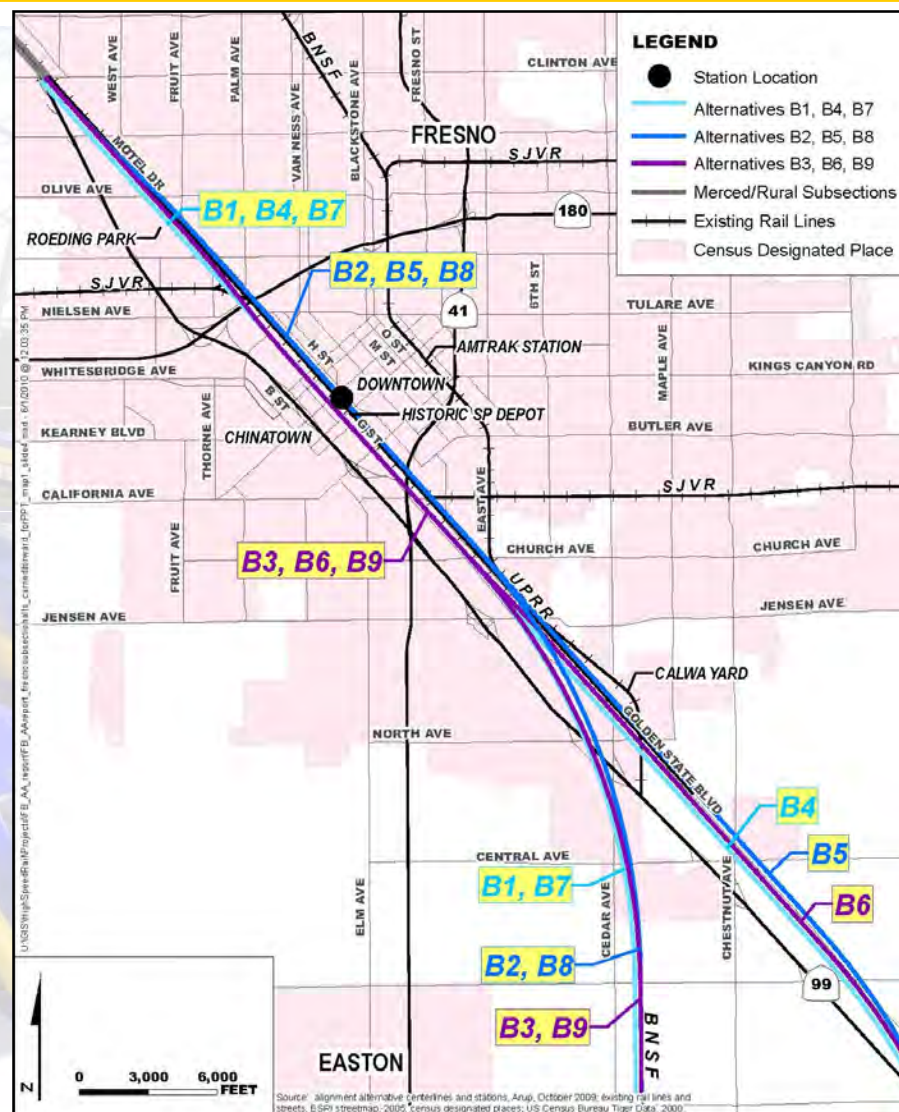
B1	UPRR West / Elevated / BNSF
B2	UPRR East / Elevated / BNSF
B3	Golden State Blvd / Elevated / BNSF
B4	UPRR West / Elevated / UPRR
B5	UPRR East / Elevated / UPRR
B6	Golden State Blvd / Elevated / UPRR





Fresno Subsection Alternatives Considered

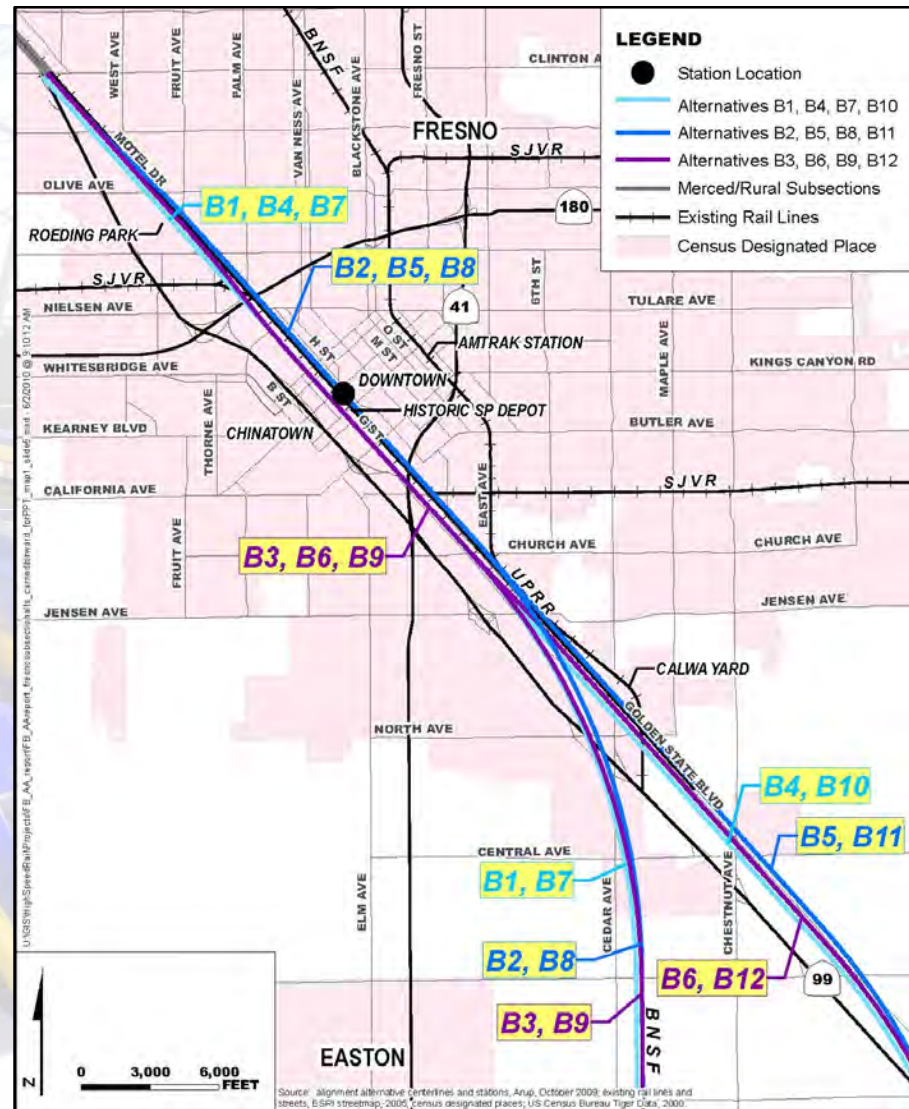
B1	UPRR West / Elevated / BNSF
B2	UPRR East / Elevated / BNSF
B3	Golden State Blvd / Elevated / BNSF
B4	UPRR West / Elevated / UPRR
B5	UPRR East / Elevated / UPRR
B6	Golden State Blvd / Elevated / UPRR
B7	UPRR West / Mixed At-Grade & Elevated / BNSF
B8	UPRR East / Mixed At-Grade & Elevated / BNSF
B9	Golden State Blvd / Mixed At-Grade & Elevated / BNSF





Fresno Subsection Alternatives Considered

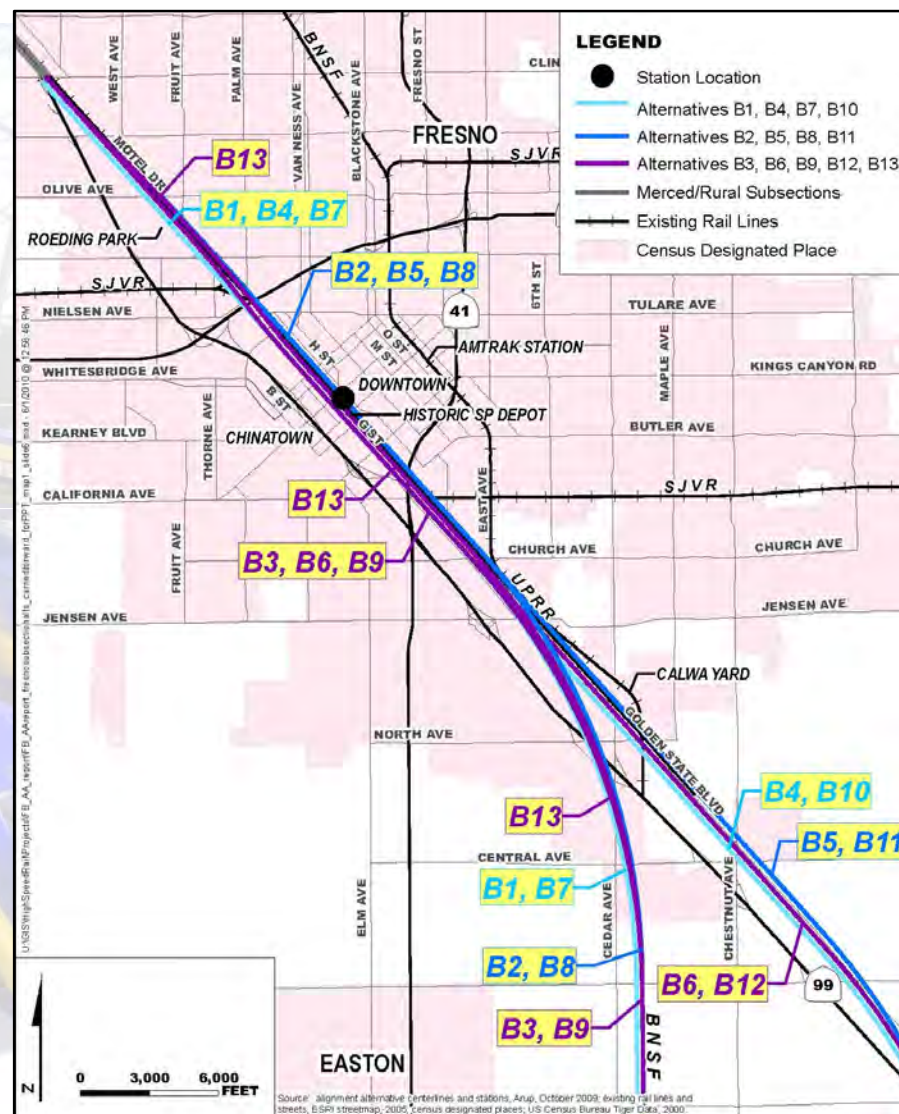
B1	UPRR West / Elevated / BNSF
B2	UPRR East / Elevated / BNSF
B3	Golden State Blvd / Elevated / BNSF
B4	UPRR West / Elevated / UPRR
B5	UPRR East / Elevated / UPRR
B6	Golden State Blvd / Elevated / UPRR
B7	UPRR West / Mixed At-Grade & Elevated / BNSF
B8	UPRR East / Mixed At-Grade & Elevated / BNSF
B9	Golden State Blvd / Mixed At-Grade & Elevated / BNSF
B10	UPRR West / Mixed At-Grade & Elevated / UPRR
B11	UPRR East / Mixed At-Grade & Elevated / UPRR
B12	Golden State Blvd / Mixed At-Grade & Elevated / UPRR





Fresno Subsection Alternatives Considered

B1	UPRR West / Elevated / BNSF
B2	UPRR East / Elevated / BNSF
B3	Golden State Blvd / Elevated / BNSF
B4	UPRR West / Elevated / UPRR
B5	UPRR East / Elevated / UPRR
B6	Golden State Blvd / Elevated / UPRR
B7	UPRR West / Mixed At-Grade & Elevated / BNSF
B8	UPRR East / Mixed At-Grade & Elevated / BNSF
B9	Golden State Blvd / Mixed At-Grade & Elevated / BNSF
B10	UPRR West / Mixed At-Grade & Elevated / UPRR
B11	UPRR East / Mixed At-Grade & Elevated / UPRR
B12	Golden State Blvd / Mixed At-Grade & Elevated / UPRR
B13	UPRR West/East Crossover





Fresno Subsection Alternatives Evaluation

Golden State Blvd Alternatives (withdrawn)

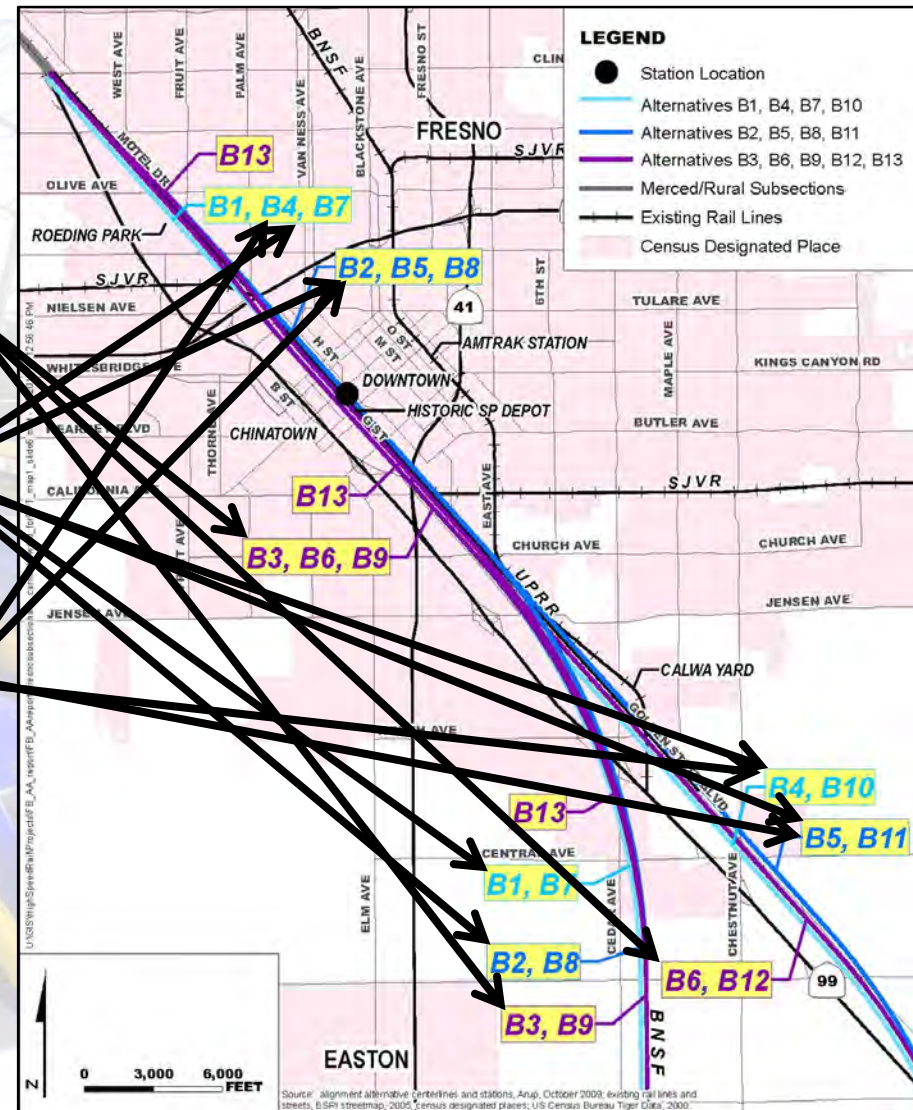
- B3, B6, B9, B12
- Station not in Downtown Core
- Impacts to culturally significant historic neighborhood
- More construction impacts due to property displacements

At-Grade Alternatives (withdrawn)

- B7, B8, B10, B11
- Residential and Business Displacement
- Construction Impacts

UPRR Rural Connections (withdrawn)

- B4, B5
- Inconsistent with Recommendations in Rural Subsection





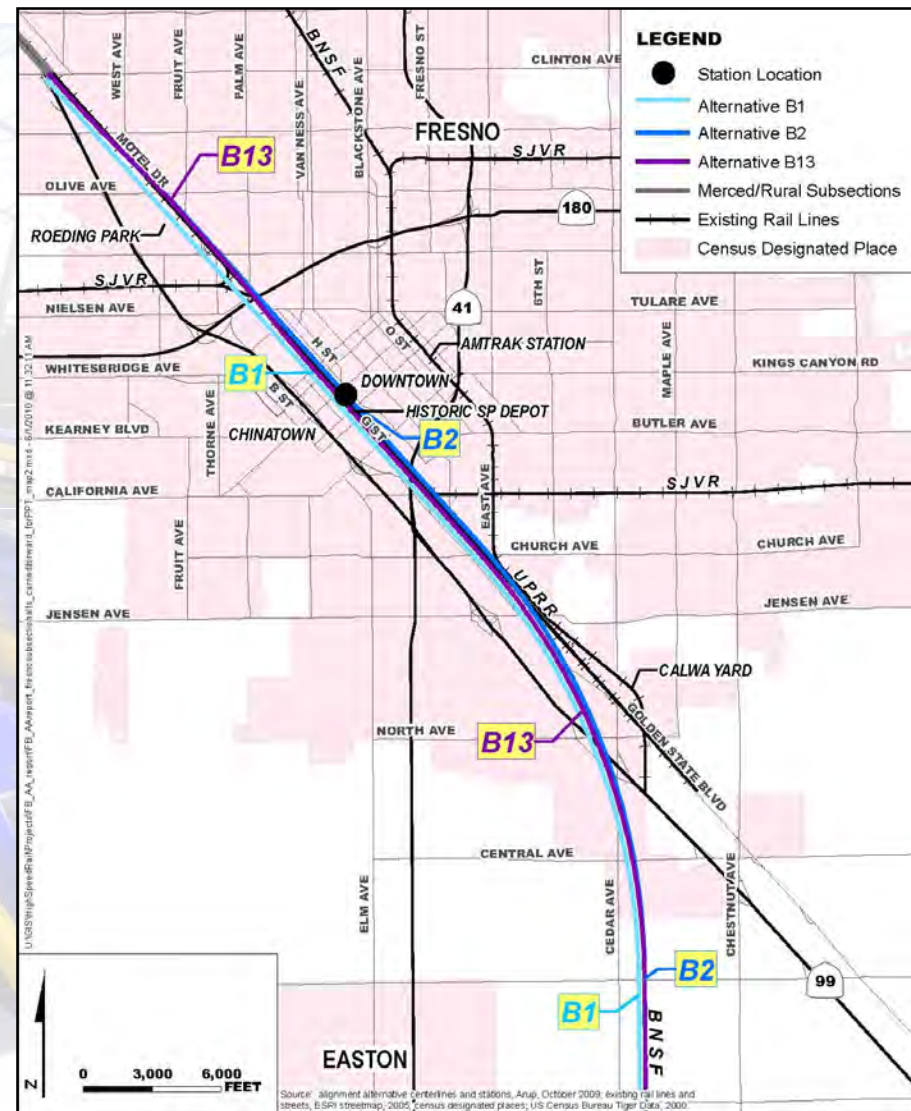
UPRR Tracks under SR-41





Fresno Subsection Alternatives Carried Forward

- **Three Alignment Alternatives**
 - B1, UPRR West
 - B2, UPRR East
 - B13, UPRR West/East Crossover
- **All Alternatives are:**
 - Elevated through Fresno
 - Adjacent to UPRR in Fresno
 - Leave Fresno south on BNSF
 - Provide a Downtown Station near Mariposa Street



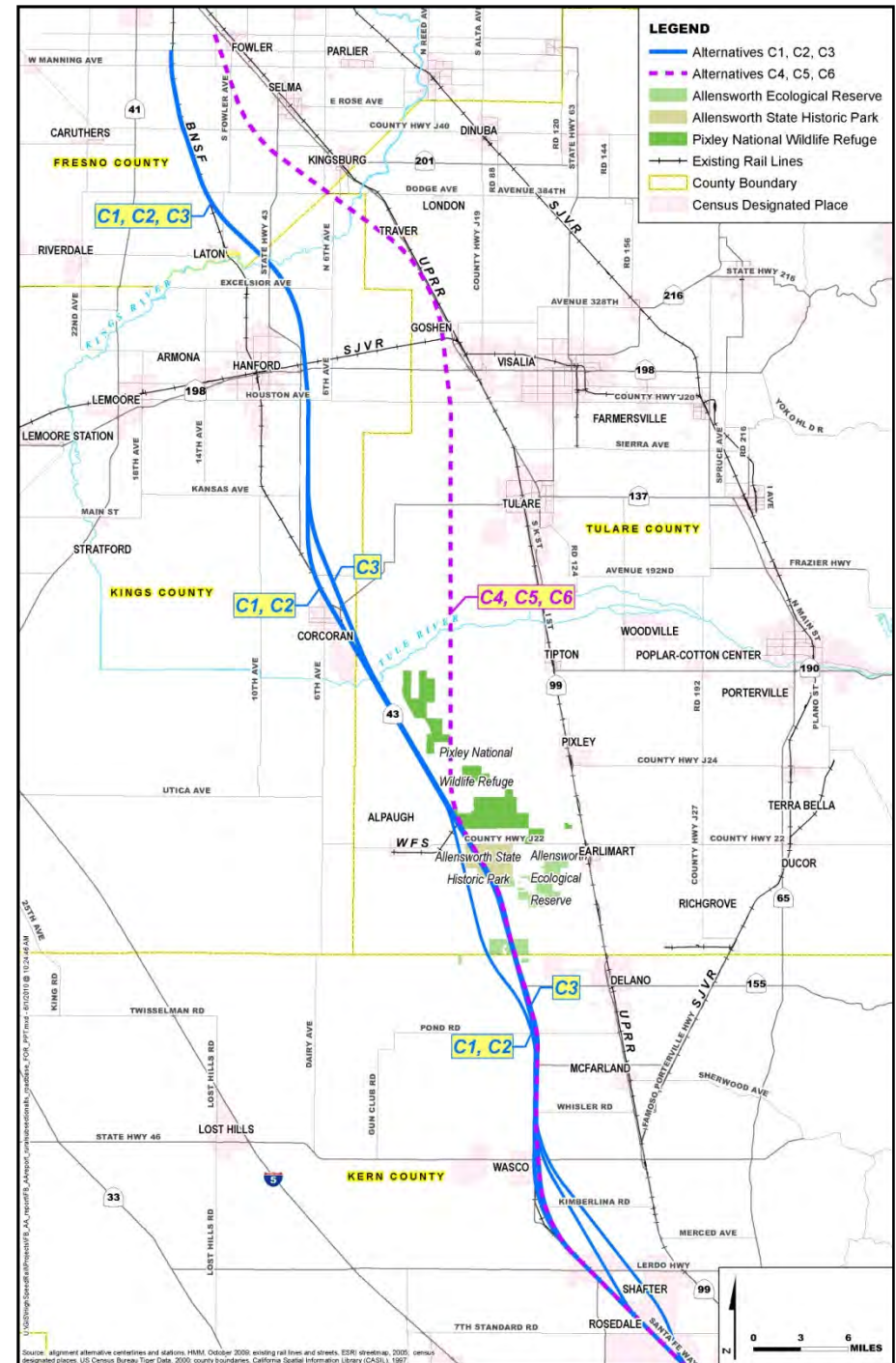


Rural Subsection Alternatives Considered



Rural Subsection Alternatives Considered

C1	BNSF-Hanford East Bypass—Shared ROW
C2	BNSF-Hanford East Bypass—West Side
C3	BNSF-Hanford East Bypass—East Side
C4	UPRR to BNSF—Shared
C5	UPRR to BNSF—West Side
C6	UPRR to BNSF—East Side



Rural Subsection Alternatives Evaluation

Easterly Alignment (UPRR to BNSF) (withdrawn)

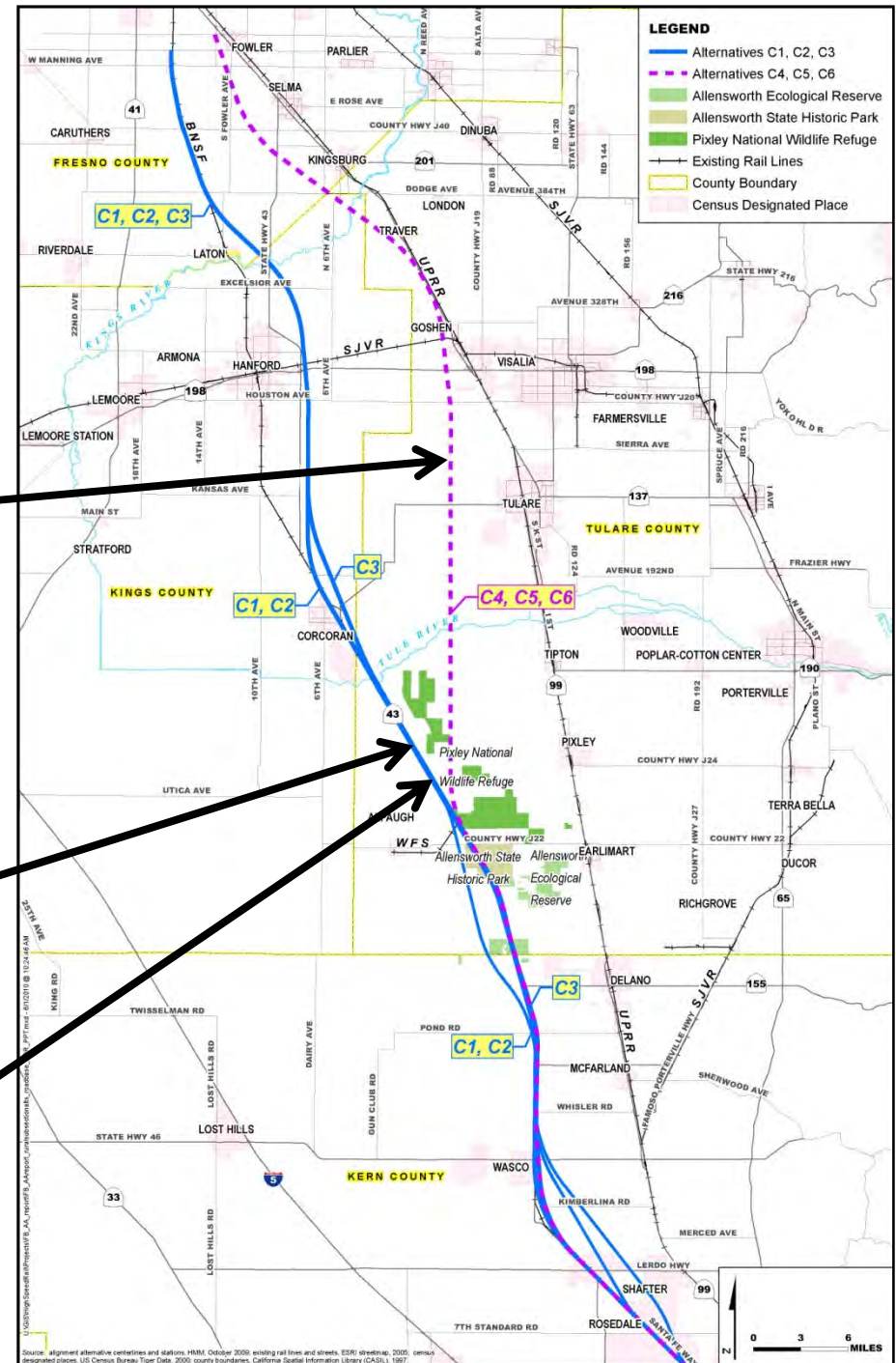
- **C4, C5, C6**
- **Original purpose for potential station sites in Visalia and Tulare**
- **Deviates from existing transportation corridors**
- **More impact to farm land and natural resources than the BNSF alignment**
- **No additional benefit and many more potential impacts.**

BNSF-Hanford East Bypass - Separate ROW (withdrawn)

- **C2, C3**
- **More ROW required**
- **No advantage over Shared ROW**

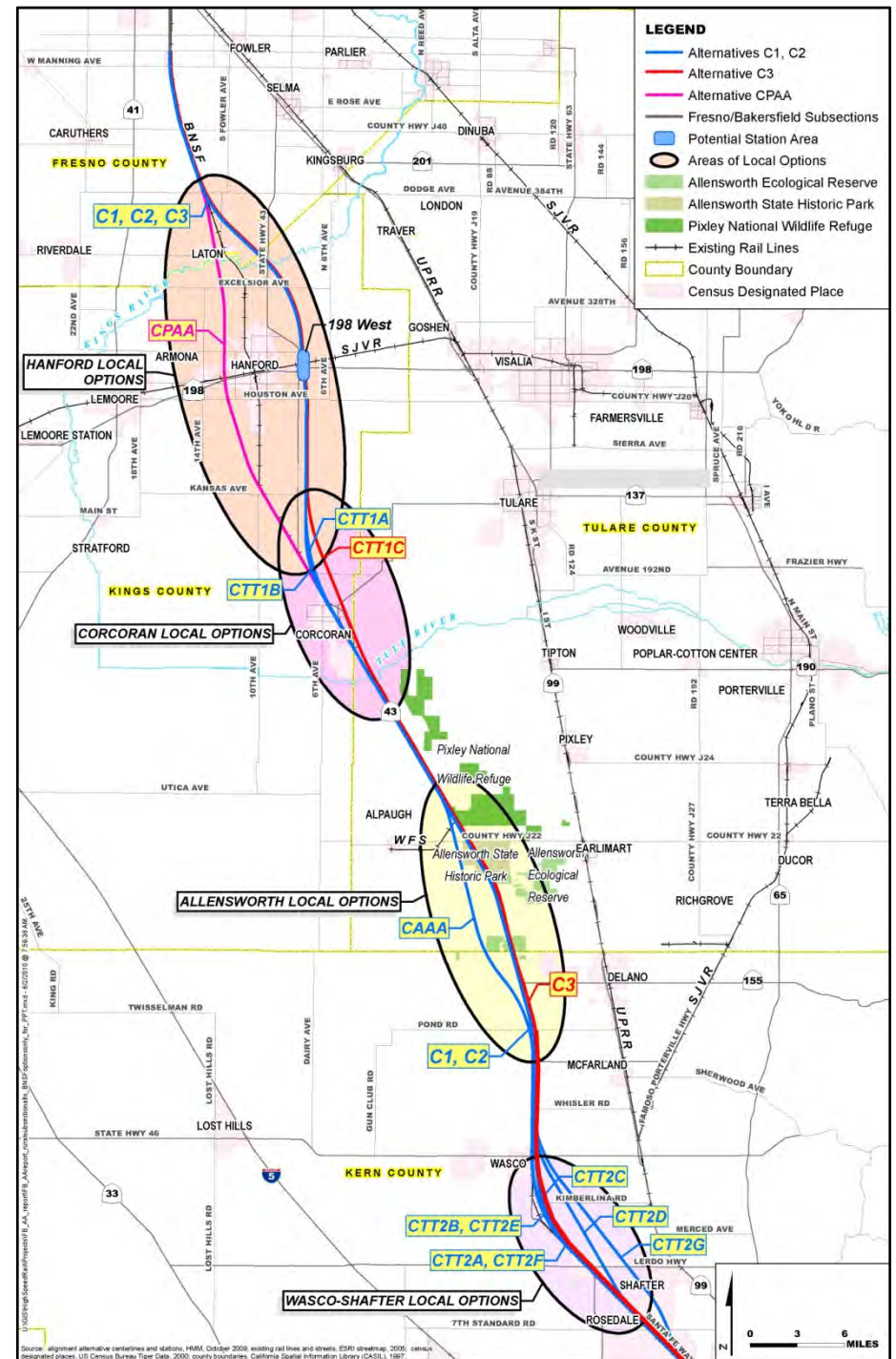
BNSF-Hanford East Bypass—Shared ROW

- **C1**
- **Closely follows Program Alignment**
- **Less cost**
- **Fewer impacts**



Rural Subsection Local Options Considered

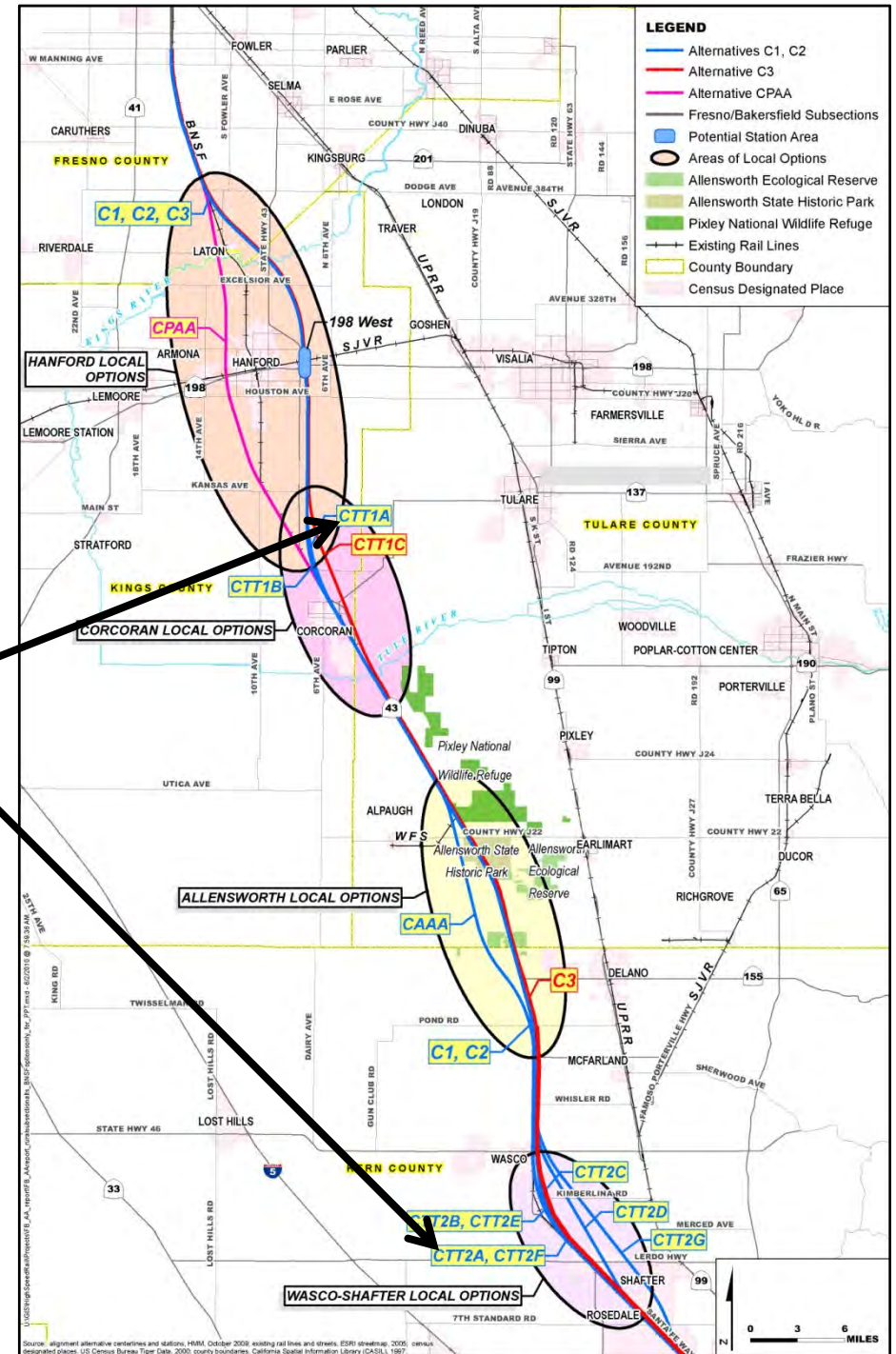
CPAA	BNSF Hanford West Bypass (PEIR/EIS Pref)
CTT1A	Corcoran Through Town At-Grade
CTT1B	Corcoran Through Town Elevated
CTT1C	Corcoran Bypass East Side At-Grade
CAAA	Allensworth Avoidance Alternative
CTT2A	Wasco/Shafter Through Town At-Grade
CTT2B	Wasco/Shafter Through Town Elevated
CTT2C	Wasco East Side Bypass, Shafter At-Grade
CTT2D	Wasco/Shafter East Side Bypass At-Grade
CTT2E	Wasco/Shafter Through Town Elevated Wasco
CTT2F	Wasco/Shafter Through Town Elevated Shafter
CTT2G	Wasco/Shafter/7th Standard Road East Bypass



Rural Subsection Local Options Evaluation

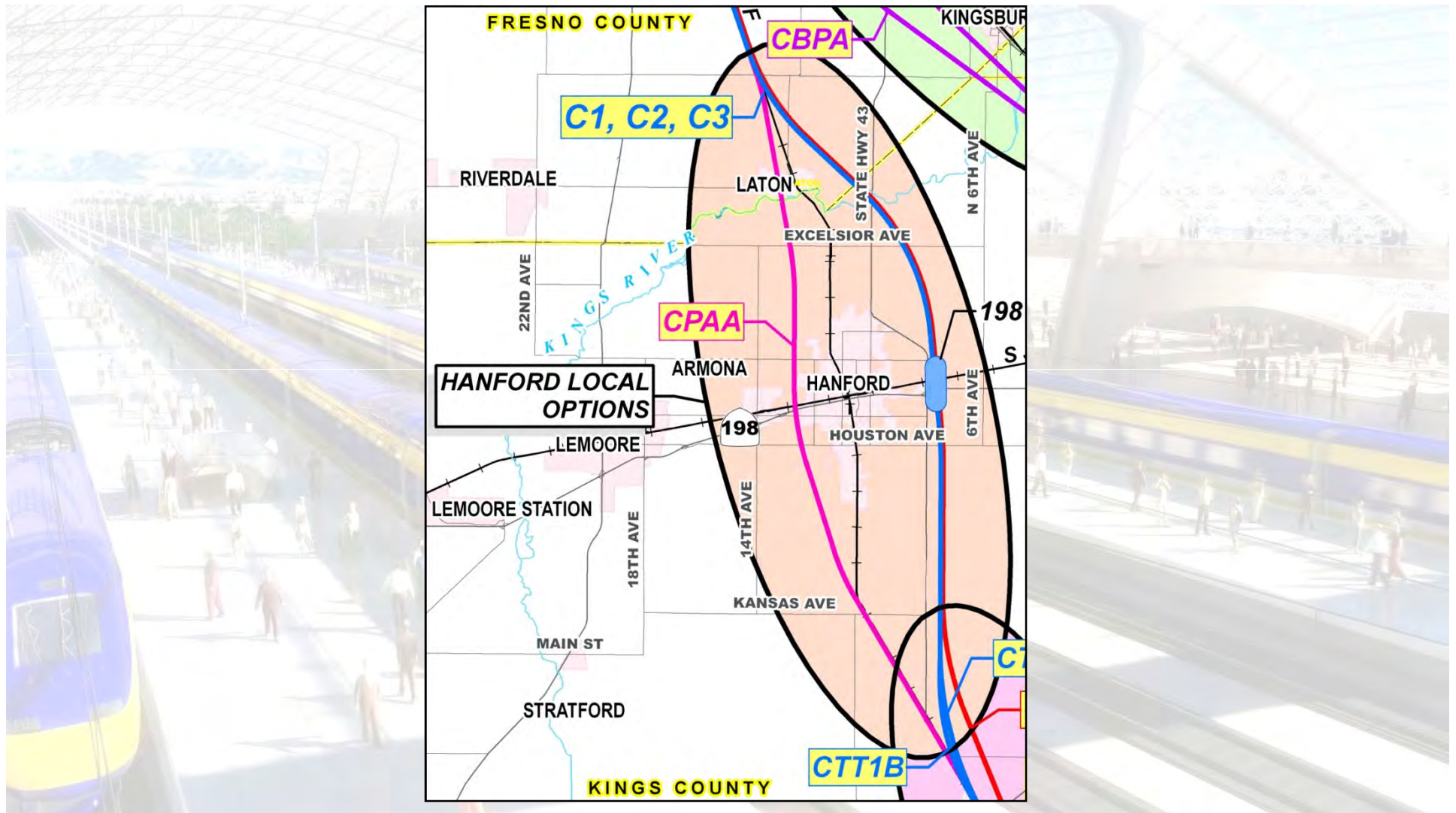
At-Grade Through Town Options (withdrawn)

- Disruption to the Communities
- Extensive Grade Crossings
- Impacts to BNSF Operations



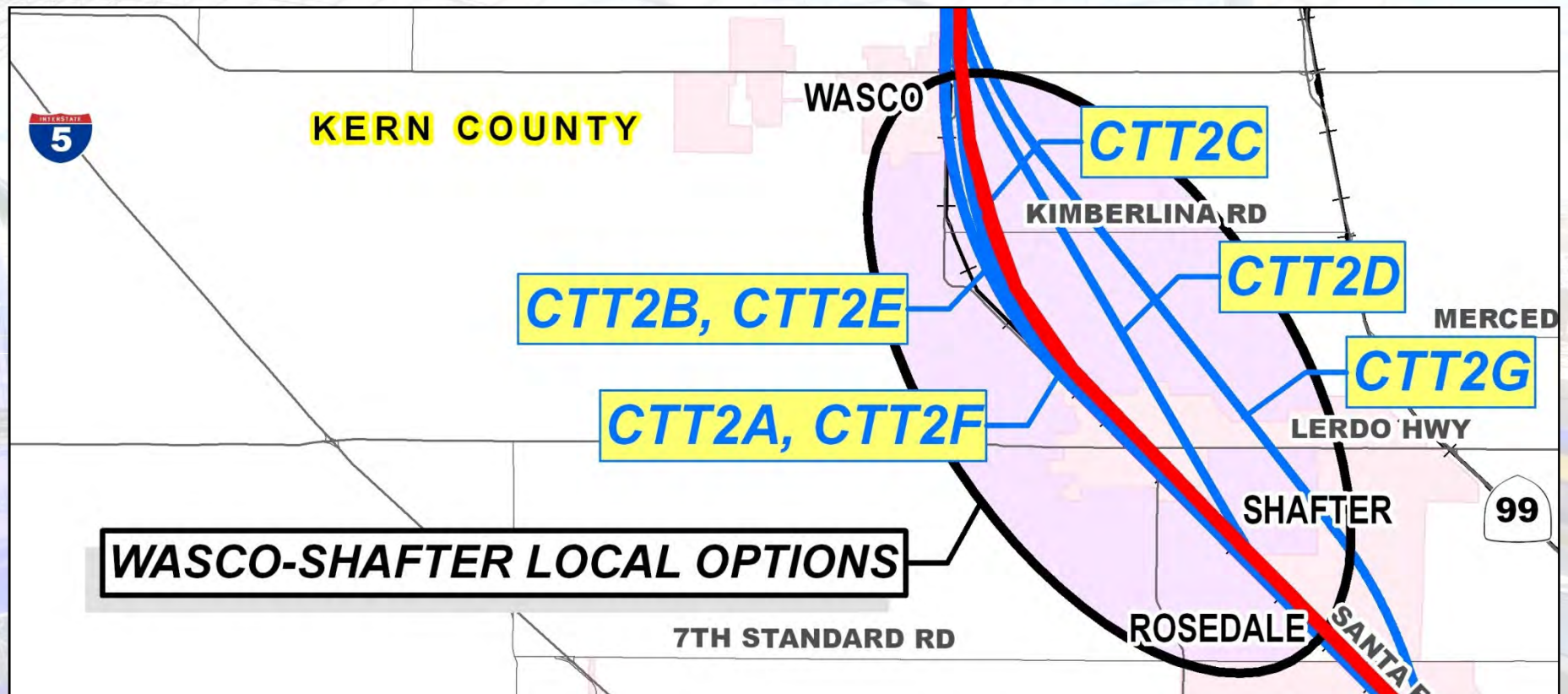


Hanford Local Options



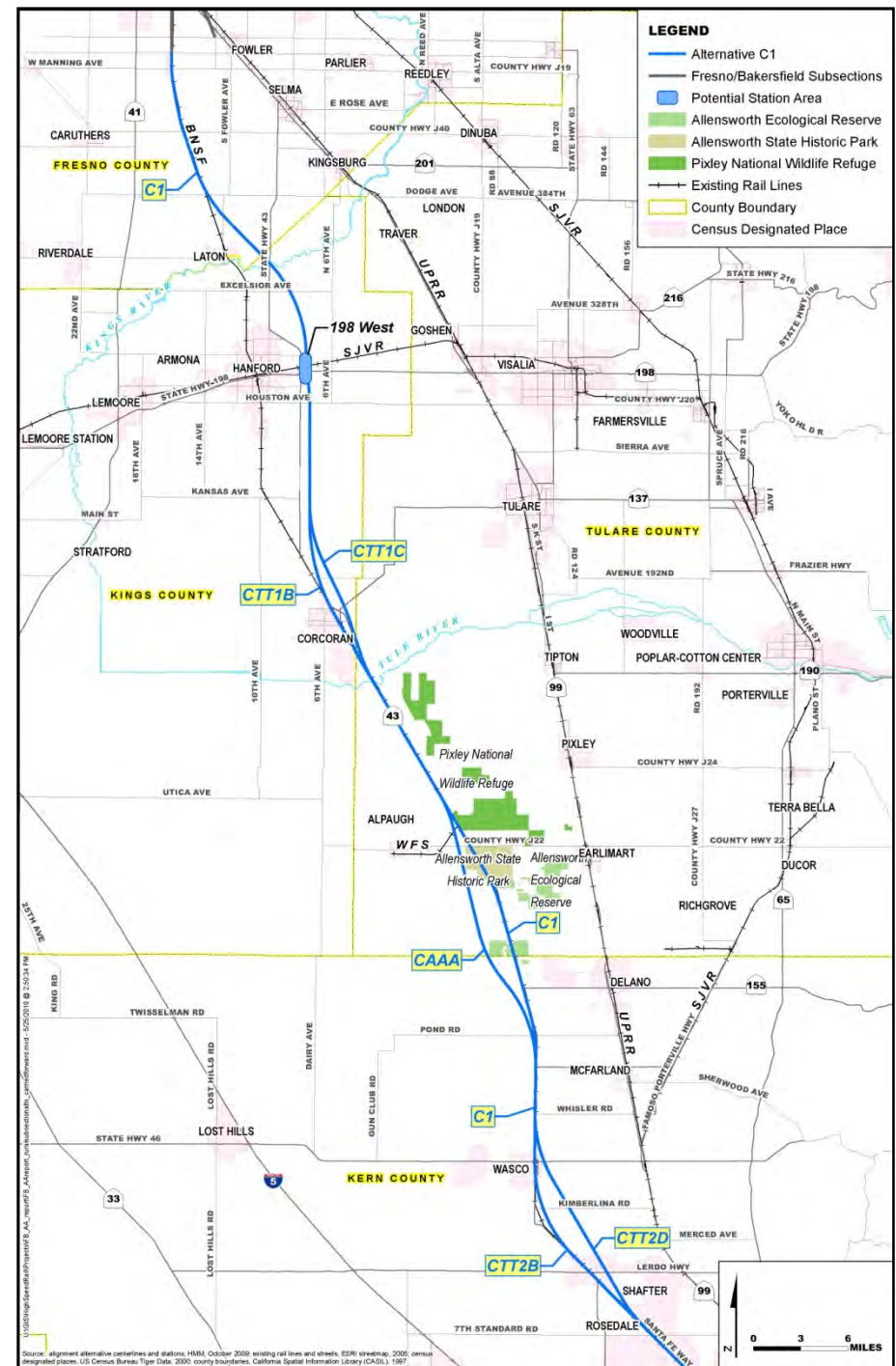


Wasco-Shafter Local Options



Rural Subsection Alts Carried Forward

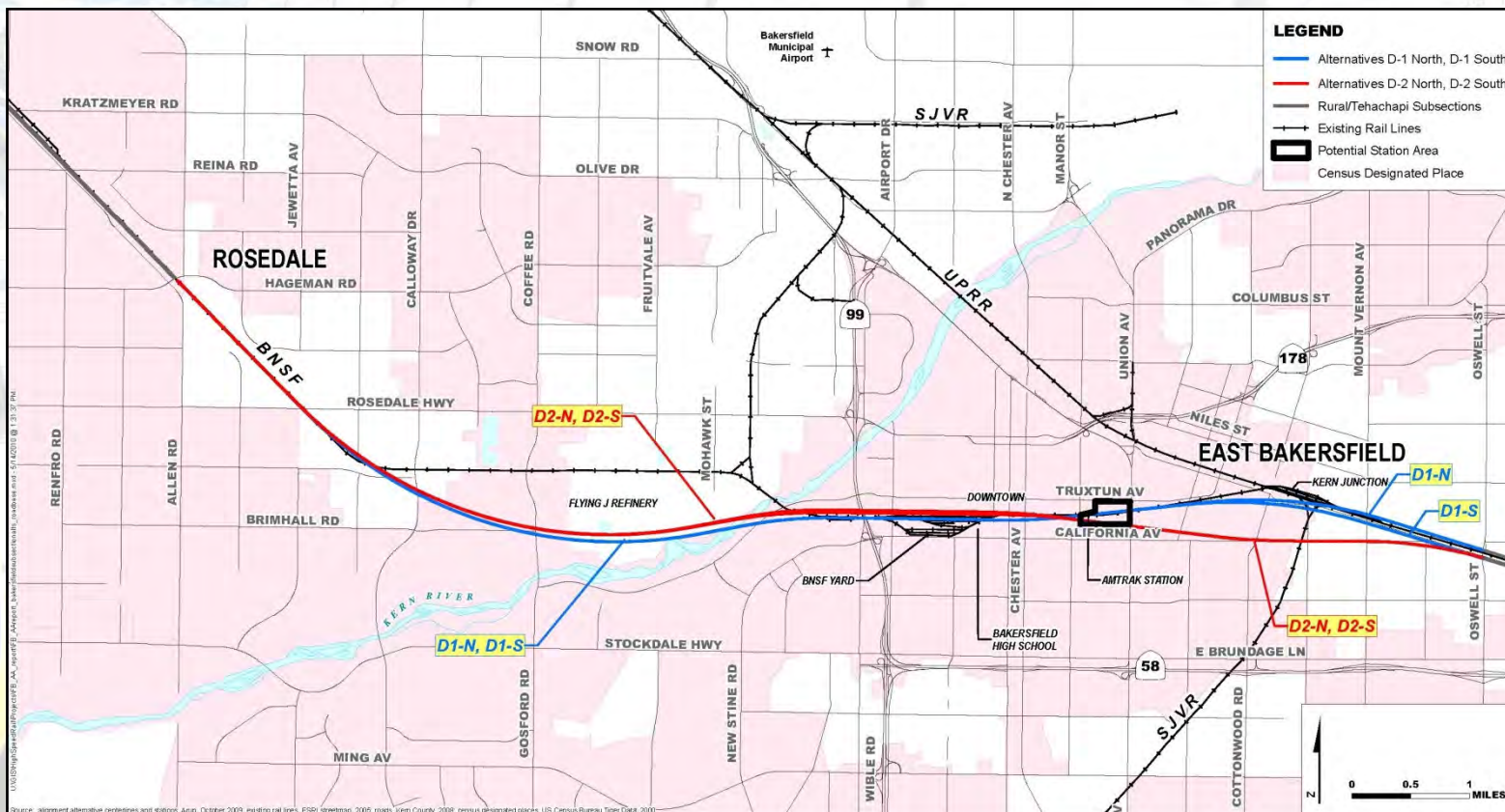
- **C1 Full-Length**
 - Largely at grade and parallel to BNSF
 - Bypass east side of Hanford
- **Five Local Options**
 - Elevated through Corcoran
 - Corcoran at-grade Bypass
 - Allensworth Avoidance
 - Elevated through Wasco and Shafter
 - Wasco and Shafter at-grade Bypass





Bakersfield Subsection Alternatives Considered

D1-N	Through BNSF Yard / Adjacent to Amtrak Station / North of UPRR
D1-S	Through BNSF Yard / Adjacent to Amtrak Station / South of UPRR
D2-N	North of BNSF Right-of-Way/ One Block South of Amtrak Station / South of UPRR
D2-S	Over BNSF Main Line / One Block South of Amtrak Station / South of UPRR



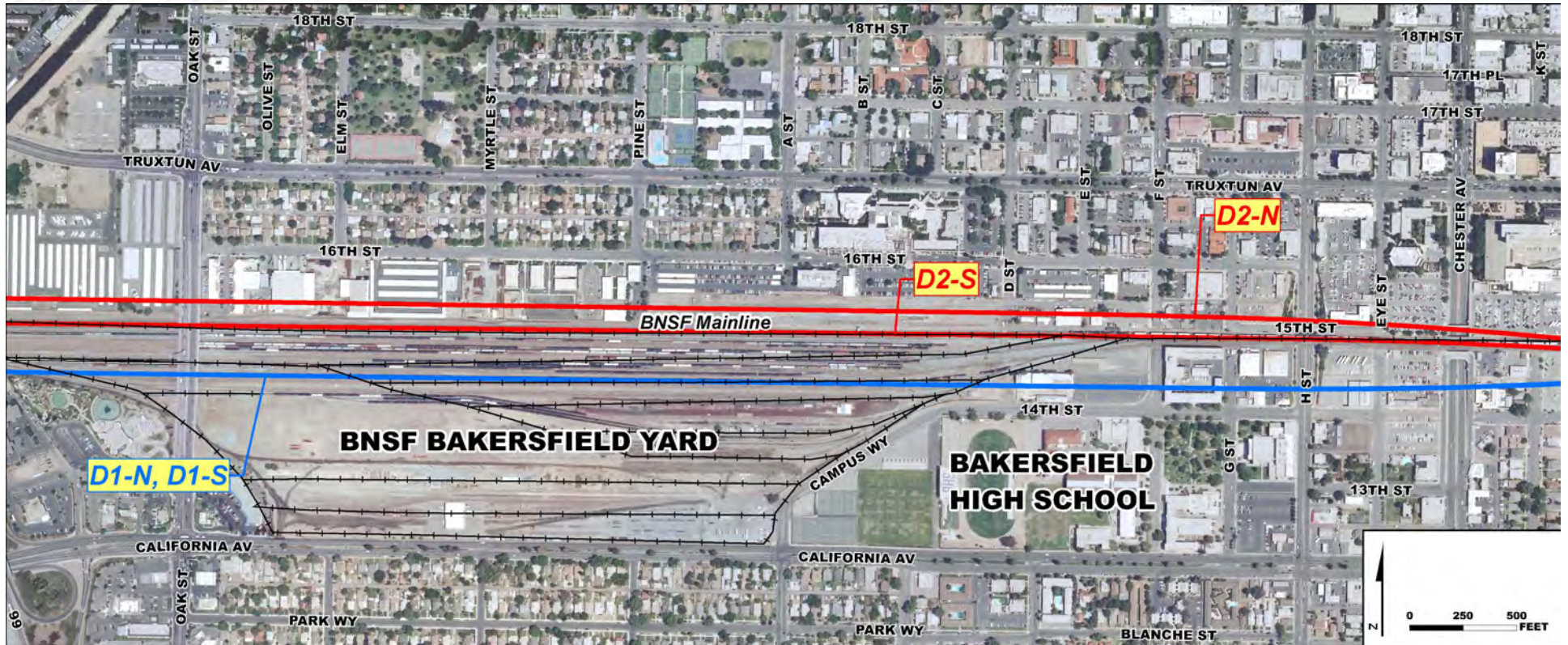


Bakersfield Subsection Alternatives Considered





Bakersfield Subsection Alternatives Considered

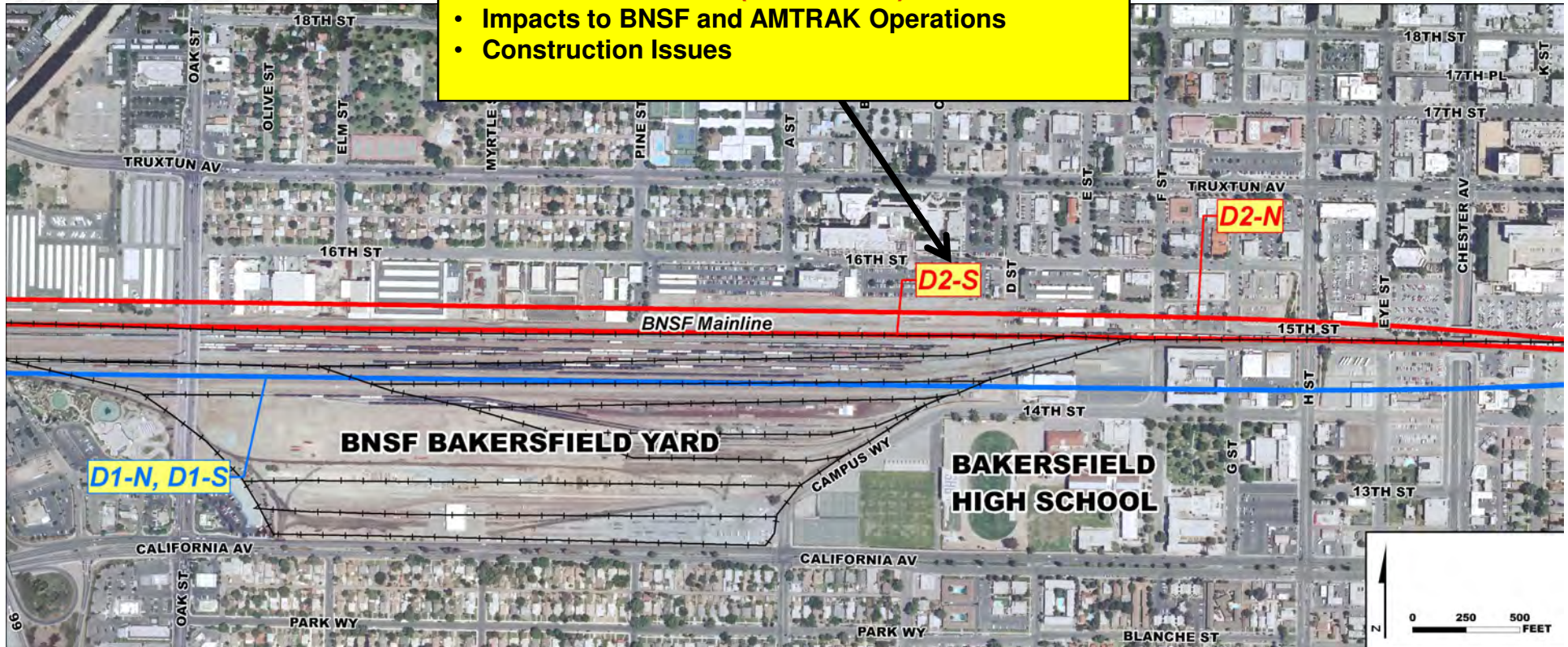




Bakersfield Subsection Alternatives Evaluation

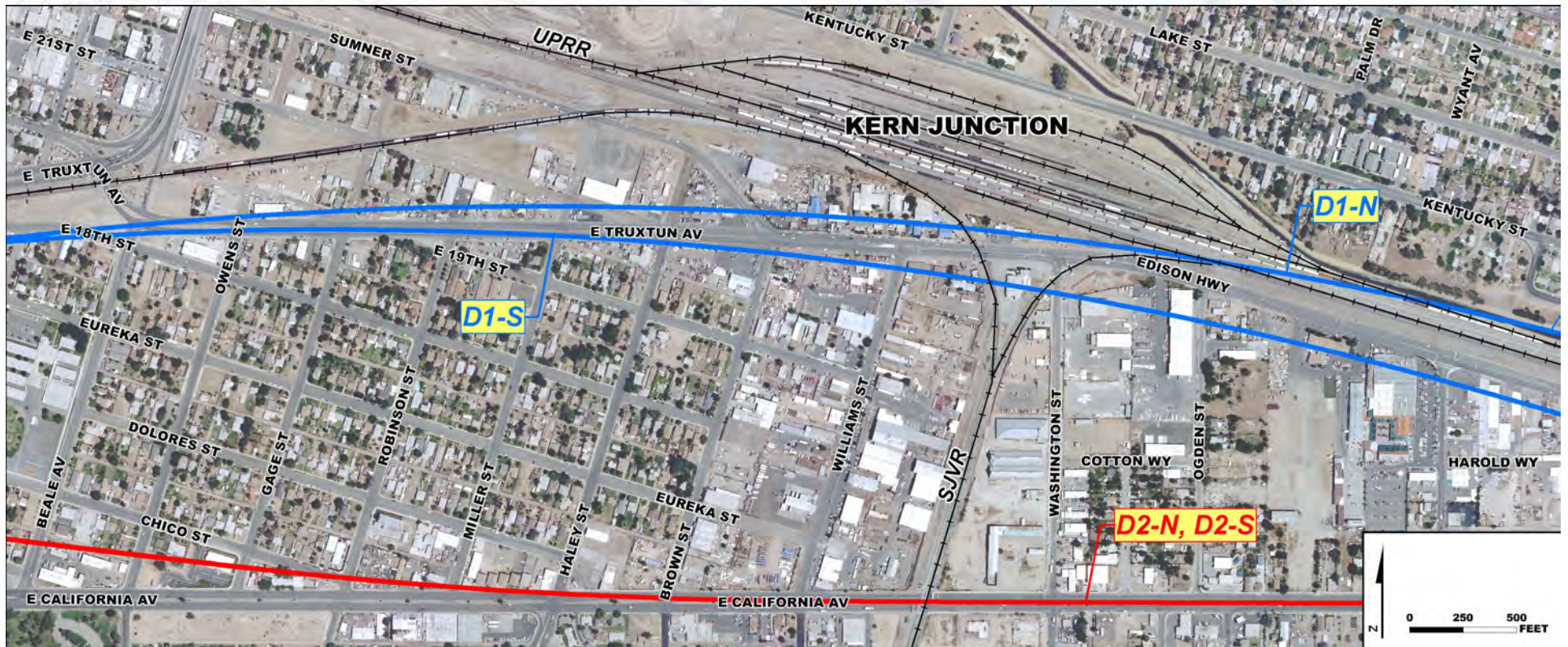
D2-S (withdrawn)

- Impacts to BNSF and AMTRAK Operations
- Construction Issues





Bakersfield Subsection Alternatives Considered

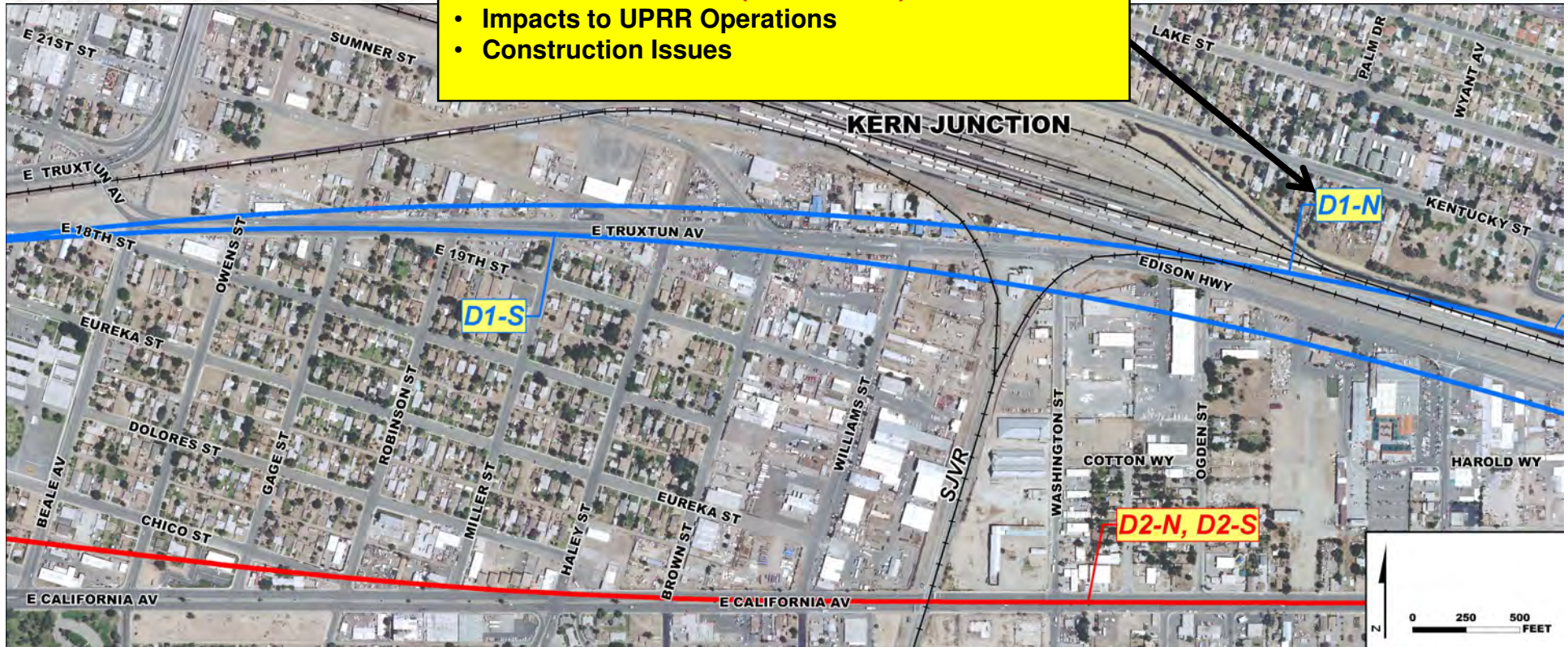




Bakersfield Subsection Alternatives Evaluation

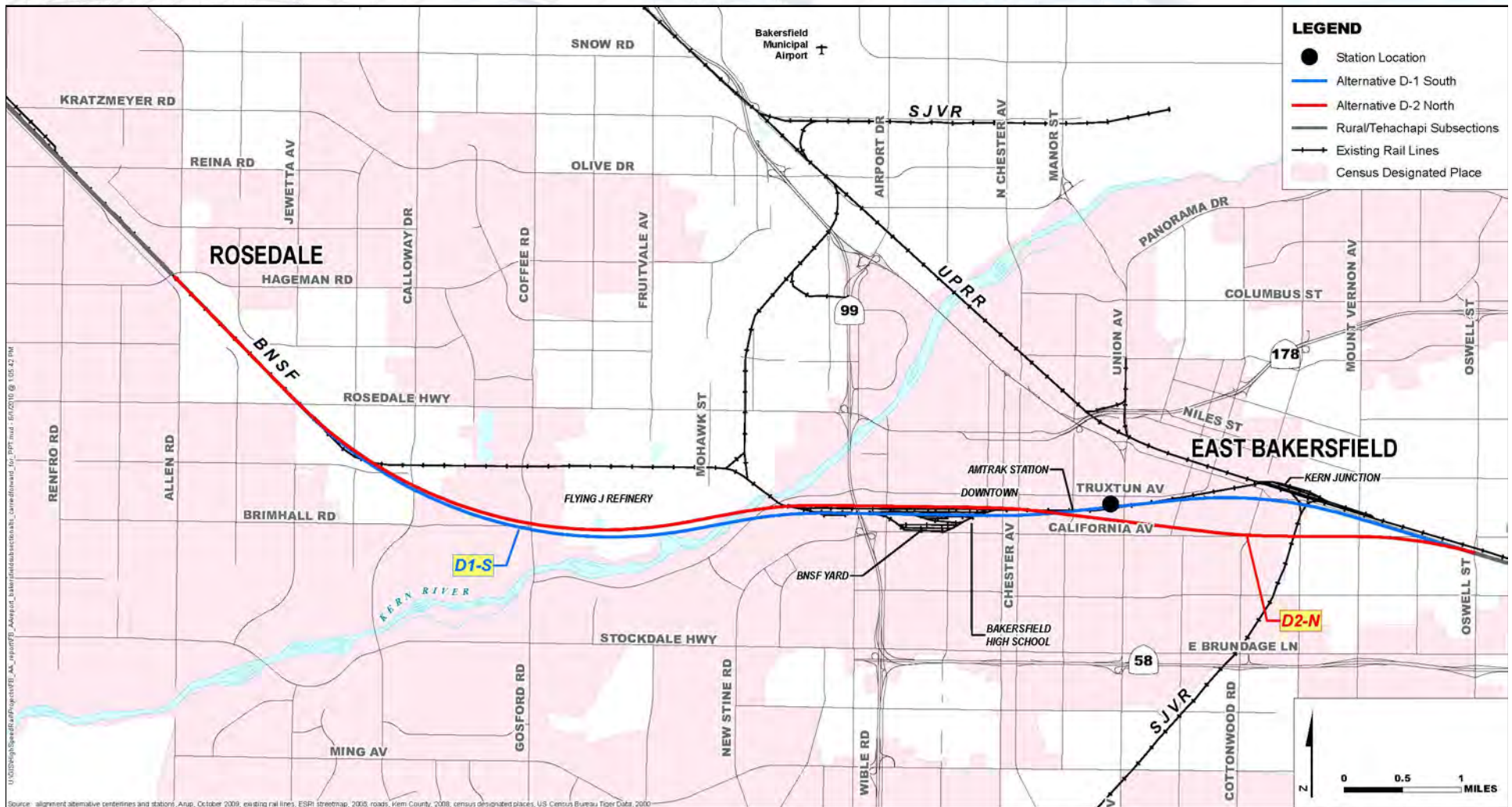
D1-N (withdrawn)

- Impacts to UPRR Operations
- Construction Issues





Bakersfield Subsection Alternatives Carried Forward



Heavy Maintenance Facility Sites Submitted and Carried Forward

Fresno Works – South of Fresno

Kings County Econ Dev Corp – Hanford

Schuil & Associates – Angiola

- Insufficient size
- Near sensitive natural resources
- Limited access to utilities and workforce
- Poor soils

City of Allensworth Development Group – Allensworth

- Located near sensitive natural and cultural resources
- Most remote site, with limited access to utilities and workforce
- Not accessible from Allensworth Bypass alignment
- Located on curve making connection difficult
- Poor soils

Watson Touchstone Comm'l Development – McFarland

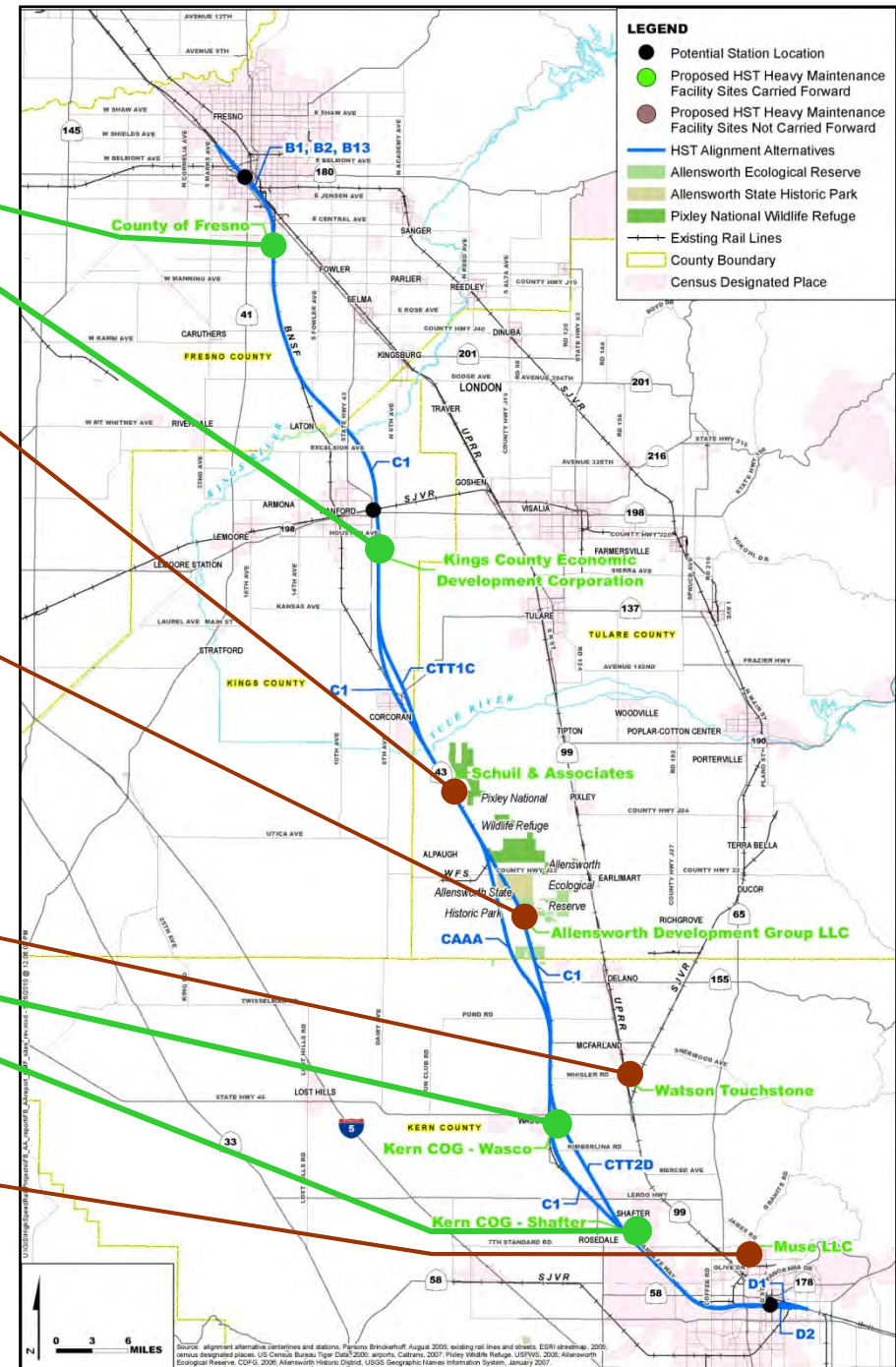
- Located 6.5 miles from nearest HST alignment alternative
- 65% of site is within 100-year floodplain

Kern Council of Governments – Wasco

Kern Council of Governments – Shafter

MUSE LLC – Bakersfield

- Located 6 miles from nearest HST alignment
- Insufficient size
- Inconsistent with current and planned land use
- Inconsistent with freeway plans





Next Steps

- **Board Action to Accept Recommendations**
- **Continue to meet with Stakeholders and the Public**
- **Refine Alignments to better match up with existing transportation corridors**
- **Prepare Supplemental AA Report if needed**
- **Complete Environmental Technical Studies**
- **Draft EIR/EIS – January 2011**
- **Final EIR/EIS – July 2011**